TELECENTRE RESEARCH FRAMEWORK FOR ACACIA

IDRC Study/Acacia Initiative
Prepared for IDRC by Anne Whyte
Mestor Associates, Canada
June 1998

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Executive Summary

The purpose of this consultant study is to outline an overall telecentre research and impact assessment framework for Acacia and to propose operational mechanisms through which the research framework can be implemented.

The Acacia initiative of IDRC is designed as an integrated program of demonstration projects and research to advance the access of disadvantaged communities in Africa to modern information and communication technologies (ICTs) and to apply them to their own development priorities. In its initial phase, Acacia is concentrating much of its effort on community based telecentres. It is funding pilot telecentre projects principally in Senegal, Mozambique, Uganda and South Africa. The telecentres to be included in the Acacia research and evaluation framework vary from phone and fax shops which offer some word processing and printing; through telecentres (such as in the South African USA program) which have phone, fax, photocopier and computers with Internet connectivity; to the higher investment "polyvalent" telecentres of the ITU-UNESCO-IDRC partnership, which can include facilities for visual teleconferencing and tele-medicine.

In almost all most cases, the telecentres will provide major improvements to the communities' present access to information and ease of communications. Before a community telecentre is established, a working phone can be many hours travel by public transport. People spend significant amounts of both time and money to obtain information about everything from government regulations, to market prices to family events.

Research framework

The present Acacia telecentre projects will provide community level data on some 50-60 communities with telecentres (40 in South Africa, 14 in Senegal, 2 in Mozambique and 3 in Uganda) and approximately 50 communities (almost all in South Africa) without telecentres.

The hypotheses that can be examined through the Acacia telecentre projects range from fundamental questions about the roles of information and communication technologies as catalysts for community development, to more specific questions about the ways in which community participation or different management models are success factors in operating the telecentres. The Acacia pilot projects offer a rare opportunity to test a large number of these hypotheses around a relatively uniform ICT package: the

community telecentre.

In both South Africa and Senegal, the pilot telecentres in the Acacia projects are specifically being designed and located to evaluate the telecentre model in a range of community situations. These include communities with various supporting infrastructures (telecommunication, electricity, schools etc.), using different entry-point applications based around key user groups. The telecentres will also have different management and financial models and degrees of community involvement. Each of the pilot Acacia countries provides a different national context for examining the relationship between national policy and community access to ICTs. Together, these variations in technology, applications, national context, community settings, and management models form the main planks of the Acacia telecentre research framework. The experimental approach will enable the Acacia initiative to evaluate the factors which make one community telecentre more successful than another, in at least three important areas: financial sustainability, service performance and community benefits.

CIET Sentinel Community Surveillance approach

The South African government telecentres will be studied by CIET which has recently established a regional office in South Africa (CIETafrica). It will be the largest longitudinal study of community telecentres within the Acacia program and probably within Africa. The strengths of the CIET approach include its sample survey approach which allow national statistical comparisons, its longitudinal data, and its "stakeholder learning system"of information feedback to the communities and to other stakeholders.

All 130 community study sites in the CIET project will provide baseline data on community characteristics and how information and communication is accessed before any telecentre interventions are made. Comparison of the 40 telecentre communities with the other 90 non-telecentre sites in the selected three provinces will provide valuable insights into the impacts of telecentres on communities, and on any spin-off effects on communities *without* telecentres. Comparison of experience within the 40 telecentre sites will enable some conclusions to be drawn about the effects of different locations, community characteristics, management capacities and telecentre operators on the success of telecentres. The pilot telecentres as a group will test the technology, training and technical support package designed by USA for this first phase, and will doubtless lead to incremental changes as learning takes place.

One of the terms of reference for this study was to review the CIET work in South Africa in some detail and to advise on whether CIETafrica should be invited to develop SCS telecentre impact projects in other Acacia pilot countries (Senegal, Mozambique and Uganda). For a number of reasons, such an approach is not recommended at this time. While CIETafrica would provide assurance of comparable research design and good data quality, it is not clear that they have the resources to mount community surveys in other countries to start within the next six months. More importantly, there is good local research capacity already engaged with the telecentre projects in Senegal and in Mozambique. In Uganda, the situation is less clear-cut because the research team has not yet been selected and CIET has already worked in Uganda.

There are also methodological reasons for not developing CIET projects on community telecentres in the other Acacia pilot countries at this time. The SCS methodology pioneered by CIET is based on community surveys that are statistically valid at large scales such as the national level. This is most valuable when what is being measured is relatively frequent at a national scale. In South Africa, the national roll-out strategy for telecentres means that there will be a large enough number of community telecentres to capture within a national sampling frame. The small numbers in the other countries suggest that a case study approach is more appropriate than a national survey approach. If the number of telecentres coming within the Acacia research frame increases significantly after this first pilot stage, it might be worth revisiting the question of a broader, multi-national survey using the CIET SCS approach.

Proposed research approaches

The research framework proposed has the main objective of creating a core body of comparable data across all the Acacia projects while leaving sufficient scope for exploring issues of particular interest in different projects in more depth, and sufficient flexibility to the research teams to adapt the generic data collection to the needs of specific situations. There is already considerable common ground in the key research questions and methods being applied by each of the research teams, but there are also definite differences in approach and in underlying philosophy that warrant further discussion and sharing of ideas between the research teams.

The main research approaches proposed to be applied in Acacia's telecentre research framework, although with different levels of intensity in each project, are:

1. Household survey
2. Telecentre operator monitoring
3. Telecentre user surveys
4. Key informant interviews
5. Focus groups
6. Institutional reviews
7. Ethnographic case studies
8. Participatory research
9. Electronic exchanges

Acacia start-up applications CD-ROM

It became apparent during the group discussions and informal meetings held in each of the telecentre pilot projects visited that there was core set of development information among the expressed needs for applications. Many of these applications can be found in the types of research results produced by projects funded by IDRC and other donors over the past two decades. Examples include improved latrines, night soil technology, alternative energy like biogas and solar energy sources, post-harvest technology to reduce crop losses, animal husbandry techniques, AIDS/HIV and family planning information. It is proposed that the Acacia leadership consult within IDRC to see if there is any interest in collaborating to produce an "Acacia Community Development CD-ROM " which would include the basic information, designs of appropriate technology and "how to " practical guides responding to key topics identified in the telecentre communities. Such an initiative would also provide a new mechanism for IDRC to capitalise on its investments in research projects by disseminating them in a new and cost-effective manner directly to key groups of potential beneficiaries: local organisations and disadvantaged communities in Africa.

Mechanisms for learning and stakeholder feedback

The Acacia initiative places priority on maximising learning and applying lessons learned as part of an ongoing research and implementation process To do this, it needs effective mechanisms for disseminating information, ensuring feedback to and from stakeholders, and linking research teams and key stakeholders to facilitate dialogue and mutual learning. For the telecentre projects, some of these mechanisms are already in place, or are being developed. Acacia has established national structures in its four pilot project countries for developing research capacities, sharing information, evaluating results and for translating results into policy and action. These structures are differently configured in the four countries, but in each, they serve as a framework for information exchange between the research projects and key national decision-makers for access to information, telecommunications and other important national policy areas.

Main Recommendations for action

1. *Establish a Community Telecentre Research Network*

The most immediate mechanism that needs to be put in place is a network of the research teams which will be studying the telecentre projects at the community level. These are not necessarily the same individuals or organisations which are responsible for implementing the telecentre projects, but those with research skills, especially social science, evaluation and community participatory research and action. The research network should focus on research collaboration in the design of research instruments and research methods, the identification of some common data collection and discussion of appropriate indicators for measuring community characteristics and community impacts and outcomes. If possible, the network should also involve IDRC program officers.

There is some urgency about launching the network as the key players should meet within the next six months in order to discuss details of baseline studies and overall research design before the telecentres are fully operational.

2. *Support a telecentre operators network*

The telecentre operators are identified as a key group for recording data on the performance of the telecentre, the demand for its services and the characteristics of the users. In South Africa, it is already planned to link the telecentre operators into a network which will communicate electronically to share experience and ideas on their roles and the challenges they encounter.

This recommendation would build on the South African telecentre operators' network in two ways: to link in the relatively small additional numbers of telecentre operators in the Acacia projects in Senegal, Mozambique and Uganda and make the network Acacia-wide, and to add a research or monitoring component to the discussions.

3. *Host and facilitate Acacia telecentre web pages*

There is a strong sense of wanting to learn from other communities *in Africa* and a sense of identity with Acacia and other Acacia telecentre projects. It is recommended that Acacia should consider hosting Acacia telecentre home pages and help to generate that sense of community through its technical assistance and common image.

4. *Fund an Acacia small grants network for community case studies*

In Senegal and South Africa, discussions are underway to support university students to undertake community case studies in the pilot telecentre communities as part of their thesis studies. It is recommended that Acacia establish a network to link selected university departments in Senegal, South Africa, Mozambique and Uganda to support student research linked to the Acacia telecentre projects. The funding mechanism proposed is a small grants project funded by IDRC as part of Acacia.

The involvement of universities is necessary to ensure that adequate supervision is provided to the students and that the project meets university thesis and course requirements. There will also be greater interest and awareness generated among key university departments' staff and students about the need to study ICTs as a development issue and capacity building in field research in disadvantaged communities.

End-note

It is believed that if these recommendations are accepted and implemented within this fiscal year, Acacia will have the capacity to support both survey and ethnographic research at the community level, and to engage the participation of the telecentre operators and community members, early enough to launch some longitudinal studies of the performance and impact of community telecentres in Africa. Furthermore, Acacia will have created interdisciplinary and international research networks within Africa committed to the study of the role of information and communication in development. Taken together, these will be major achievements.

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1. Introduction

The Acacia Initiative seeks to empower communities in sub-Saharan Africa to improve their own social and economic development, through the particular entry point of improved access to Information and Communication Technologies (ICTs). Acacia is designed as an integrated program of demonstration projects and research to address the four linked areas of national policy, telecommunications infrastructure, modern ICT technology, and access to information for different applications such as education and health.

In its initial phase, Acacia is concentrating much of its effort on community based telecentres. It is funding pilot telecentre projects in Senegal, Mali, Mozambique, Uganda and South Africa. The telecentres themselves vary from phone and fax shops with some word processing and printing; through the standard franchised telecentres in the South African USA program with phone, fax, photocopier and computers with Internet connectivity; to the more costly "polyvalent" telecentres of the ITU-UNESCO-IDRC partnership in Mali with added capability for audio and visual teleconferencing and equipment such as ECG and ultrasound scanners in a medical diagnosis room for telemedicine.

The community telecentre is an social experiment in which modern information and communication facilities are made available to people and organisations who previously may have had to travel many hours to reach an unreliable public phone. The community telecentre is both a public good and a pay-for-service facility whose benefits are eagerly anticipated in the pilot communities. The financial viability of telecentres, the ability of the equipment to stand up to the conditions of use, and the wider social, economic and cultural impacts of bringing ICTs to poor communities in Africa are yet to be determined.

1.1 ELSA Goals and Objectives

ELSA stands for the Evaluation and Learning System for Acacia. The Acacia Initiative places emphasis on the need to share information among its many stakeholders and partners, and in particular, to ensure that two-way feedback takes place effectively between the communities and the state and local

authorities which are involved in Acacia activities, and which together form a key partnership for success.

ELSA's objectives are to ensure that Acacia's activities are effectively monitored and evaluated so that lessons learned can be rapidly disseminated and implemented. This is particularly important for ICT programs because the pace of change and the introduction of new technologies is rapidly escalating in Africa, as elsewhere. ELSA is therefore concerned to encourage common research designs as far as the particular objectives and situations of different Acacia projects allow, and to set out a common evaluation framework so that their experiences and findings can be compared. The need to share ideas and information, as well as the imperative to disseminate findings rapidly and widely, also requires ELSA to establish and manage operational mechanisms to share information. These systems should enable participants to extract lessons and apply them so that the Acacia Initiative is itself a "learning system".

1.2 Terms of Reference

The purpose of this study is to develop an overall telecentre research and impact assessment framework for Acacia and to propose operational mechanisms through which the assessment framework can be implemented. In particular, the study is asked to determine whether the Acacia telecentre impact assessment framework is best achieved through common approaches integrated into the different projects or whether a parallel impact assessment process should be launched, or some hybrid of the two.

In addition, this study is asked to suggest data collection which should be included in each of the Acacia telecentre projects, or to propose a parallel research process in order to achieve comparability of results. The proposed framework should be assessed for its capacity to facilitate community involvement during the life of the IDRC-supported projects and beyond.

The study was conducted through consultations with Acacia and other IDRC staff in Ottawa and in Africa, and meetings with project leaders and visits to telecentre sites in Senegal, Mozambique, South Africa and Uganda, together with document review and analysis. Annex 1 lists the telecentre communities visited. The study took 35 days with 23 days spent in the field in Africa during April-May 1998. The final report was delivered in July 1998.

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2. Overview of Acacia telecentre projects

2.1 SENEGAL

2.1.1 Use and application of ICTs by community organisations in Senegal - pilot phase 97-8151-01.

Eight telecentres will be established and managed by different community organisations in poor urban and peri-urban localities with the technical and organisational support of ENDA-Ecopole (Environment and Third World Development Activities). The community organisations involved each have different objectives and needs for information and communication, but have agreed to share experiences within a "research-action-training" network facilitated and supported by ENDA-GRAF. Each of the community based organisations is committed to actively involving all sections of their communities in the telecentres, with special attention paid to the needs of women and of young people. The telecentres will provide access to e-mail and the Internet as well as support and training in word processing and database management and accounting. During the second year, it is planned to extend the services to networking between the groups and documenting their experiences on the Internet.

The selection of sites and groups for the pilot telecentres will be made from among the community-based groups with which ENDA has been working for several years. These include groups organised around economic activities such as artisans and farmers as well as women's groups and groups working on environmental health projects and traditional medicine. The aim is not to create groups for the purpose of testing the telecentre concept, but to introduce telecentres to already existing community groups to see whether, and how, ICTs help the groups in their community projects.

Each community- based group within the telecentre network will enter into a contractual charter with ENDA which will specify their individual objectives for using ICTs for community development as well as identifying some common themes for examination across the network. The contractual charter will also identify the people responsible for leading the "research-action-training" (RAF) activities in each community and the agreed common RAF mechanisms.

Each of the eight selected community groups will identify two suitably qualified young people from the community who will be trained by ENDA for five months to be the technical operators of the telecentres. These are anticipated to be university students, who are not employed elsewhere. They will also be trained in information searches, adult education, community animation, group dynamics, techniques for social survey and impact assessement, and management of community centres.

ENDA will provide not only the training and technical support but will ensure that the different community group leaders and telecentre operators meet in seminars and workshops to share experiences and learn from each other. During the first year, when the selected community members are being trained, the telecentres will be equipped with phone and fax so that they can begin to earn some revenue and get experience of managing a community telecentre. The groups will be encouraged to undertake their own monitoring and self-assessment, but ENDA will work with them to undertake an overall evaluation of the pilot phase activities.

2.1.2 Decentralisation of Trade Point Senegal 97-8154-01

Trade Point Senegal (TPS) is part of the Global Trade Point Network created under the auspices of UNCTAD and has been designated as the regional node for the network in francophone Africa. The Fondation Trade Point Senegal was established in February 1996 as a new type of legal entity which facilitates the partnership of state bodies and private enterprise, by being regulated as a private company but able to exercise some public sector prerogatives. Trade Point Senegal's objectives are to provide small and medium entrepreneurs with access to new ICTs in order to increase their competitiveness on the international and national markets, and to simplify import-export procedures by developing an electronic system for commercial transactions linking entrepreneurs with banks, forwarding and insurance companies, customs and other government departments (such as agriculture for the export of plant and animal products). TPS will also provide commercial information such as data banks on product demand and prices, business opportunities, and will support Senegalese small businesses by hosting home pages for them, organising virtual fairs and providing training and advice.

The Acacia project with Trade Point Senegal is a pilot project to decentralise these services outside

Dakar to two regions, and to further decentralise to two pilot communities in each of the two regions. The Acacia project links the ICT and trade expertise of Trade Point Senegal with the participatory research expertise of the IDRC Research Network on Social Policy in West and Central Africa. This network will provide a consultant and local interviewers to apply MARP methodology (Methode active de recherche de planification participatives) to the selection of sites for the decentralised telecentres, to monitor the use of the facilities and to evaluate the impact of the telecentres on the participating small businesses and local organisations (NGOs, Women's Groups, Chambers of Commerce, artisan's cooperatives, and farmer and fisher cooperatives).

The selection of sites for the telecentres is based on an assessment of the available infrastructure and the site offered by the community for the telecentre, the economic and social potential of each community and the willingness of local authorities and businesses to work in partnership with Trade Point Senegal. The economic base of each community was examined, together with a study of how they currently obtain trade information; what information they need; how they organise themselves, and what they expectations and attitudes towards Trade Point services they hold, including their capacity and willingness to pay for them. Nine regions of Senegal were studied and two were selected: St. Louis and Thies. Within each region, further studies of 11 towns and 6 rural areas in St. Louis and 9 towns and 7 rural areas in Thies led to the final identification of one town and one rural area in each region for the locations for the pilot Trade Point telecentres. The decentralised telecentres in St. Louis and Thies will not include electronic commerce facilitation during the initial phase but will provide access to Trade Point information, the ability to list products for sale, technical support and advice.

The participatory research conducted to identify the pilot sites showed that there was much more demand for Trade Point services than could be provided by the pilot project and Trade Point Senegal has decided to immediately provide at least price information on a regular basis to many towns and rural areas in the two regions by faxing information to nodes in the private telecentre network. They will also provide training and, if necessary, a fax machine and promotional assistance in order to extend the reach of the Trade Point network to the many interested small businesses beyond their pilot sites.

The MARP evaluation to be undertaken using focus groups and individual interviews will be combined with monitoring data on use of the telecentres collected by Trade Point personnel. Data to be collected will include impacts on commercial transactions, especially increases in exports; use of telecentres and satisfaction with them on behalf of small businesses and local groups, development of organisational capacity, financial arrangements and revenue generation, as well as wider economic and social impacts. The results of the evaluation of the pilot phase will be given at a national seminar including participants from all regions of Senegal, before decentralisation is considered for other regions and a national strategy is elaborated.

The chief beneficiaries of the project are the informal sector including groupings of farmers, fishers, artisans and women's groups, as well as small and medium enterprises, NGOs working in the regions which can obtain information more readily and local governments and administrative structures, who will have a better basis for developing local government programs.

2.1.3 Introduction of ICTs into management of "*les terriors villegois*" 97-8161-01

This project will focus on one region of Senegal, Tambacounda, which is one of the economically poorest and lacks basic infrastructure, including communications like radio. Communities are small, widely scattered and isolated with little contact with the outside world. The Acacia project will support the West Africa Rural Foundation, a community development NGO working in the region since 1993, to introduce ICTs into their overall development strategy for the rehabilitation and management of community lands and more generally to help develop socio-economic activities, to strengthen community access to local and national government, and to open up their communication with the world beyond their communities.

The project will work in three communities using participatory research methods to:

- identify their information and communication needs and what combination of traditional and modern technologies will best meet those needs;
- evaluate the impact of access to information and communication on natural resource management;
- assess the political, economic, social and cultural outcomes of the introduction of ICTs;
- develop a broader strategy for the introduction of ICTs and information systems that are adapted to the rural situation in Tambacounda.

The project will also train about 30 members of community groups in participatory research concepts and methods: specifically to:

- undertake participatory appraisal for designing an information and communication system;
- negotiate and plan the introduction of ICTs in rural communities; and to
- evaluate projects and community programs.

The project had not yet really started and was not able to be visited in April 1998. It is not known at this point what type of community ICTs will be selected, but it may well be some form of community-based and managed telecentre. If so, the project can be included in the Acacia telecentre impact assessment framework.

2.1.4 Role of ICTs in implementation of decentralisation policy in Senegal 97-8153-01

The project with the *Societe africaine d'education et formation pour le developpement* will focus on the need to make local elected officials better informed and trained about the responsibilities and roles that have been devolved to them as part of the national policy for decentralisation of government. Many of these officials do not speak French and much of the relevant legislation has not been translated into national languages. There is also a problem of communications between the central government in Dakar and the local and municipal governments.

The project will inform government officials about the potential role of ICTs in facilitating decentralisation policies and will establish a system for monitoring decentralisation and local government. It will establish one centre with advanced ICT equipment to test the use of ICTs in training and informing and providing data bases on local government responsibilities and relevant legislation . On the basis of this experimental situation where local elected officials are brought into the centre for training, materials will be developed for a national training and information campaign on local government using local telecentres.

2.1.5 Integration of gender dimension into Acacia's strategy in Senegal 97-8152-01

The gender dimension is an important consideration in the Acacia telecentre projects in all pilot countries. This 6 month project is an example of what is being done. It consists of a several consultancies and the establishment of a national steering committee and national and regional workshops to:

- identify the needs and expectations of women for ICTs;
- elaborate a matrix for analysing the gender dimension of ICTs and define relevant indicators;
- inform and sensitise women and women's groups about Acacia and ICTs generally;
- develop with the participation of interested women, an action plan for ensuring women's access to ICTs and that they are not disenfranchised by ICTs.

The results will be discussed at a regional and national workshops and will be considered for further action by the national steering group for gender for Acacia.

2.2 SOUTH AFRICA

2.2.1 South African Telecentre Development Project 97-8914-01

The Universal Service Agency (USA) is a statutory body created by the 1996 Telecommunications Act with the specific mandate to promote universal access to telecommunications services. One of its major programs is to establish community-based telecentres providing phone, fax and computer facilities linked to the Internet in under serviced and unserved areas. The USA plans to rollout 80 telecentres in 1997-1998 with its own funds (primarily from the Universal Service Fund which raises revenue from telecentre operators) and by entering into partnerships.

In this project, IDRC will provide the funds to the USA to establish 6-12 telecentres in the first phase. The IDRC "adopted" telecentres are being selected to represent a range of communities, management models and technologies in order to provide information that can be generalised to improve the telecentre rollout strategy at the national level.

It is anticipated that at least some of the IDRC "adopted" telecentres will be captured in the sampling frame of the CIET telecentre study (project 97-8911-01) so that detailed information will be available on their use and socio-economic impact at the community level.

The USA's mission is to provide universal access to ICTs within five years. Universal access is defined as a phone within 30 minutes or 5 km travel of every household. It has estimated that about 4000 telecentres are needed to achieve this goal but the USA will only be able to finance about 500 from its own revenues.. To succeed in its target, the USA must not only be able to determine best practices, management and design for community telecentres so that they remain operational, but must also demonstrate that community telecentres can be financially sustainable, or even profitable, so that the government can find partners in private investors. Current thinking is to have NGOs and CBOs operating community telecentres as a franchise, with the USA providing start-up equipment, training, technical support and preferential telecommunications tariffs but the franchisee able to set prices and provide the services. The USA advertised widely their invitation to apply for operating one of their telecentres and deliberately selected a range of host organisations in order to experiment with different models of governance and application.

The selection criteria for placing telecentres in the first year are:

- communities with low telephone density;
- the least economically and socially developed communities;
- telecentres accessible within 30 min travel for many households in community;
- appropriate building with security can be provided for telecentre;
- host organisation (franchisee) to have successful track record in providing community services, and involving the community in its activities as well as proven financial stability;
- host organisation must involve community members in running of telecentres;
- application must include business plan for becoming self-sustaining;
- application must show how women will be empowered and be involved.

The USA are proposing a franchise relationship with the NGOs, CBOs and private entrepreneurs who will actually operate the community telecentres. The agreement is normally for a period of 2-3 years after which the franchisee must update and refurbish the telecentre at its own expense according to the norms and standards of the USA.

Under the franchise agreement, the USA will provide:

- minimum of 6 installed telephone lines;
- at least 5 computers and accessories so that each telecentre will have at least 5 operating computers at all times;

- other necessary equipment and furniture including telephone management system, fax, 2 computer printers, a modem and photocopying machine;
- consultation and advice on premises, fixtures, fittings and equipment; staff selection and supervision and training, accounting and book-keeping; pricing and a recommended price guide, business procedures;
- start up training provided by an institution approved by USA;
- technical support and business assistance;
- monitor performance of telecentre and standards of operation;
- right to use of trademarks and signage;
- insurance against loss or damage of USA property.

The responsibilities of the franchisee include:

- operating the telecentre properly;
- providing a satisfactory and approved business plan;
- acquiring the right to occupy franchised premises;
- acquiring and using only specified equipment;
- ensuring equipment and premises display colours and signage of USA;
- providing only those services which conform to standards associated with USA;
- not representing itself as agent or partner of USA;
- maintaining interior and exterior of telecentre in good condition and repair;
- maintaining equipment in good operation and replacing obsolete equipment, fixtures and fittings to meet current USA specifications;
- purchasing equipment and supplies from approved suppliers and paying them promptly;
- carrying out business only at approved premises and doing best to promote business;
- determining own prices within approved guidelines;
- not providing customer credit;
- ensuring employees and managers are properly trained;
- permitting USA to enter premises during normal business hours on reasonable notice;
- attending annual conference organised by USA for telecentre operators;
- providing financial records on request and maintaining an accurate record of all transactions through a cash register or similar approved device;
- providing USA by electronic transfer a summary of gross invoice sales each week;
- keeping all invoices including spoiled ones;
- providing audited annual accounts and other data requested by USA;
- providing four times a year a profit and loss statement for the preceding four weeks;
- registering for value added tax.

2.2.2 Pilot telecentre monitoring, Impact Assessment and Learning System 97-8911-01

This project enables the Universal Service Agency (USA) to obtain longitudinal data on the performance of the community telecentres they are establishing and on the impact of the USA telecentres on the communities they serve. The work on this project is subcontracted by USA to CIETafrica, an affiliate of CIETinternational which has developed the Sentinel Community Surveillance (SCS) methodology that will be used to measure community impact of telecentres and to provide information back to the communities and to the USA . The data will be obtained from community members, telecentre users, telecentre operators, key informants and institutional reviews through a combination of household survey interviews, focus groups and key informant interviews. Aggregated findings will be shared with community leaders and national policy advisors (USA). Section 3 provides more detail on the CIET approach.

The project will enable CIET teams to study 130 sites over three survey cycles within the initial two year period, of which up to 40 sites will have community telecentres established within the first phase of telecentre rollout. The other 90 sites will act as a nationally representative panel of reference communities without telecentres so that the information and communication patterns of under serviced

communities can be monitored and compared with the telecentre communities. The relatively large sample will enable the USA to compare performance between the telecentres and so identify "best practices" to incorporate into the national strategy. It will also be possible to compare the group of communities served by telecentres to those without, in order to measure the impact of community based ICTs on various aspects of community development and empowerment.

The project will apply the CIET-SCS methodology to developing a stakeholder information system (SIS) which will allow local perceptions and behaviour with respect to telecentres to be incorporated into local and national planning for ICTs. The stakeholders are defined as the communities, the telecentre service workers, private sector investors in telecentres, local authorities, the USA and other national policy bodies.

It is anticipated that the USA will become familiar enough with the SCS methodology to incorporate it into their national strategy beyond the initial period of the IDRC funded project. The South African Constitution provides citizens with the right to access to information and the project assumes a rights-based approach to ICTs and thus will include mechanisms to increase community awareness of those rights. The project will therefore also measure changing perceptions and increasing assertion of rights to information in the telecentre and non-telecentre communities.

2.3 MOZAMBIQUE

2.3.1 Feasibility study for establishing pilot telecentres in Maputo Province, Mozambique 97-8908-01

The Information Centre of Eduardo Mondlane University has completed the feasibility study for community telecentres. Their report recommends the establishment of two pilot telecentres, in two towns relatively close to Maputo, Manhica and Namaacha. The researchers have submitted a project proposal to IDRC for support for the first phase of implementation in which the two pilot telecentres will be set-up, operated, monitored and evaluated..

The feasibility study examined eight possible sites for the pilot telecentres with respect to criteria of socio-economic activity and potential for future development; the existence of an adequate pool of potential users; current means of communication; telecommunications infrastructure; financial sustainability and local interest in having a telecentre. For the two pilots, it was also important to have locations that were accessible to the university team based in Maputo and where there was the possibility of installation and start-up in the short term.

Of the eight sites examined, Manhica, an agro-industrial and administrative centre and Namaacha, an educational and tourist service centre, were selected for further study of user potential and for financial viability. Both towns are receiving new digital telephone exchange early in 1998 and both are subject to frequent fluctuations of power and power outages. In both towns, the potential users include the local authorities, local businesses, NGOs, teachers and students, and people in transit. In Namaacha, there are also tourists and in Manhica, there will be a community radio. Sites for the telecentres have been identified and estimates taken for the cost of upgrading and equipping the facilities.

Considerable attention was given in the feasibility study to develop a business plan for the telecentres which used the survey data on willingness to pay for telecommunication services and frequency of use to estimate potential revenues. The model developed for community telecentres in Mozambique is one of a community centre which will have as its key objectives; to stimulate the local economy; to provide educational and job opportunities for young people, and to support local government in decentralisation and democracy. The feasibility study and follow-up proposal distinguishes between direct target groups such as teachers and business people who are expected to use the telecentre in their work; and indirect target groups which will benefit from the telecentre without necessarily using it themselves.

In the proposed implementation presently being considered for funding within Acacia, the pilot

telecentres would be equipped with phone and fax, three computers for public use connected to a printer and Internet access for e-mail and information searches. The computers would also be used for training and for distance learning. A small library of technical books and CD-ROMS as well as reference materials and directories would be held, together with training equipment such as television and video, radio-cassette player and whiteboard. It is planned to train a telecentre manager and assistant recruited locally to operate the telecentres. Local facilitators or animateurs would also be trained. The objective is to make the telecentre accessible and welcoming to all members of the community and to be able to give classes to small groups.

During the proposed pilot phase, a multi-disciplinary team from the Eduardo Mondlane University would provide technical support to the telecentres and would conduct monitoring and community impact studies. They propose to survey both users and non-users of the telecentres, to measure who benefits from the telecentres directly and indirectly. The quality of the services provided and the demand for different types of information (health, education, agriculture, government etc) would be studied over the pilot phase. Also to be examined is the management model for the telecentres and how well the equipment performs under local conditions of use and infrastructure. The usefulness of different programs and software, including ones in English, Portugese and Brazilian would be assessed, based on feedback from users and the telecentre operators.

The information gained from the two pilot telecentres is planned to be used to develop technical, financial and human resource plans for more telecentres in Mozambique. The research leaders are members of the Mozambique Acacia Advisory Committee (MAAC) chaired by the Minister for Economics and Social Affairs of the President's Office, so that their experience and results will be fed into the national planning mechanisms for community telecentres.

2.4 UGANDA

2.4.1 Multipurpose Community Telecentre Pilot Project 97-0022-01

The pilot multipurpose community telecentre at Nakaseke is one of five pilot projects being conducted in Uganda, Benin, Mali, Mozambique and Tanzania under a UNESCO-ITU-IDRC partnership. Nakaseke Sub-County, with a population in 1991 of 31,000 spread throughout a network of villages, was selected as an example of a typical rural setting without existing telecommunications infrastructure but sufficiently close to Kampala to enable monitoring and technical support to take place, and a community where local interest and support was evident. Nakaseke was very affected by the civil strife in Uganda and all its existing telecommunication and other infrastructure was lost or severely damaged between 1971-1986. The Sub-County is now beginning to rebuild and has a district hospital, a primary teacher training college, four secondary schools and 23 primary schools around the central place of the Nakaseke Trading Centre, which has a population of about one thousand.

The target groups for the telecentre are the primary teachers' college, teachers in local schools, a network of NGOs through DENIVA (Development Network of Indigenous Voluntary Associations), and medical and administrative staff at the District Hospital. Other groups expected to benefit include the local administrative council, small businesses and farmers, womens' groups, children and unemployed youth, and the general public.

The telecentre will be owned by the Nakaseke sub-county council which, after three years, can transfer its ownership to a private entrepreneur as a franchise. The Uganda Posts and Telecommunications Corporation (UPTC) is providing a special telecommunications link to Nakaseke without requiring the normal justification in terms of economic potential and financial viability. The local council is responsible for providing and maintaining the building and for providing local assistants.

The local council will enter into a formal agreement with the Project Management Committee which is chaired by the Uganda National Commission for UNESCO, and includes the Public Libraries Board, and the Uganda Posts and Telecommunications Corporation (UPTC). The Uganda National Commission for

UNESCO is the executing agency for the project. A full-time Project Coordinator has been appointed who is based in Kampala and will be responsible for day-to-day project management and for coordination between the local, national and international levels. In addition, there is a local steering committee which includes representation from the Public Libraries Board and UPTC and is to provide feedback to the national management committee on how local leaders feel that the project is performing. After three years, it is anticipated that the Steering Committee will oversee the management of the telecentre.

The project design and management structure of the Nakaseke telecentre is primarily led by national UNESCO structures and key partners, including the National Library. A small branch library is based in the telecentre and is already stocked with donated books in English. The British Council has agreed to provide funds for the development of library information services. At the public meeting and equipment demonstration held on 18 May 1998, some concern was expressed that the project was proceeding slowly but installation of equipment awaits upgrading of the building, particularly with respect to better security. Providing that this is done and once the phone lines are in, there are plans to have some computers installed and operating before the end of 1998.

According to the tripartite agreement, IDRC will take the lead in evaluation of the project, ITU in technical aspects and UNESCO in programs and services. One of the issues to be resolved by IDRC is how far this project, in which Acacia does not have the lead, can be linked to the other Acacia telecentre project in Uganda and elsewhere in terms of evaluation and learning within Acacia.

2.4.2 Community Empowerment through the use of ICTs in Uganda 97-8545-01

Following four thematic studies on ICTs in Uganda carried out for Acacia (policy options for ICT use in rural areas, ICT technology and infrastructure, information content and applications and human resource capacity for ICTs), a national workshop was held in December 1997 with IDRC support to develop a national strategy for the use of ICTs in community development. At this workshop, telecentres were recommended as the best mechanism to deliver the benefits of ICTs to rural communities.

A national Acacia Secretariat has been established at the Uganda National Council for Science and Technology (UNCST) which is implementing the pilot telecentre project. On the basis of a baseline study carried out in 1996 by the UNCST on the information needs of pastoral and farming communities, five possible sites for the location of pilot community telecentres have been identified. Consensus building workshops have been held in each site to sensitise local stakeholders to the potential of telecentres and to determine their needs for information and communication as well as their organisational and financial resources for operating a telecentre. The project also aims to test the feasibility of community-private sector partnerships in delivering ICTs to rural areas.

The project will provide two pilot telecentres in two contrasting communities (Buwama, an agricultural community located on a main highway with major trading potential; and Nabweru, a poor peri-urban community near Kampala interested in developing its capacity to feed Kampala with meat, fish, eggs and poultry). In both communities, considerable community sensitisation has already been accomplished and buildings are being prepared to house the telecentres. The key user groups are actively involved in defining their communication, information and training needs and have expressed a willingness to pay for specific services. In order for a rollout of telecentres to occur, private sector involvement is seen as crucial and part of the pilot stage will be to ascertain the potential revenues and demand for telecentre services in order to prepare a business case that might interest the private sector. A franchise model is under consideration. At the same time, the telecentre is generally seen as a public good which should be accessible to all.

2.5 MALI

2.5.1 Planning and Implementation of Multipurpose Community Telecentre at Timbuktu 97-8158-01

This project is one of five pilot projects being supported through a partnership of UNESCO, ITU, and IDRC to establish multi-purpose telecentres in Africa. The one in Mali, located in Timbuktu will also be supported by FAO to provide information for rural development and by WHO to establish a facility within the telecentre for tele-medicine. Acacia's contribution to the project is largely to ensure that an evaluation of the socio-economic and cultural impacts on the community and the users is conducted. The other partners will provide funds to SOTELMA (the state corporation under the Ministry of communications to provide tele-comunications in Mali) to construct and equip a purpose-built building on land provided by the local authorities . Applications will be developed which will respond to the local needs. Currently, although Timbuktu has a population of half a million people, there are only five public telephones and most people have never dialed a telephone number in their lives. There is only one Internet server in Mali, at Bamako). However, local leaders from government, artisans, small businesses, schools are enthusiastic about a community telecentre which could open up the town to the outside world.

The services to be offered in the telecentre include:

- public access to telecommunications (telephone, fax, e-mail and Internet);
- technical support for evaluating information needs;
- access to training on use of ICTs for commerce;
- education and distance learning;
- tele-medicine;
- business support services such as word processing, photocopying and printing;
- travel services, conference services, translation services;
- home pages on the Internet

The telecentre will also serve libraries, museums and hospitals through their own networks. For example, the local library, part of a network to promote literacy and reading, will act as a resource for identifying other applications for the telecentre and for linking other libraries, including school libraries, in the network to the telecentre and thus to the Internet and national library databases. The pilot phase will also develop an appropriate fee and pricing structure for services to business, local authorities, local groups and the public. It is planned to develop applications such as commercial information, weather information, local research studies on agriculture and opportunities for rural development and provide the information to users.

The pilot telecentre is planned to provide a model for telecentres in other communities in Mali, including rural areas. SOTELMA already has plans for four other such telecentres in Mali. At the local level, the telecentre will be managed by the municipal authorities, together with local management committee and a user group. At the national level, a steering committee will develop the national telecentre strategy and will work with working groups on each of the major applications (health, education, agriculture etc). Local telephone calls will be subsidised and telecommunication fees for connections and licences will not be levied by SOTELMA during the pilot phase.

The evaluation will be conducted under the direction of a Evaluation Group which will develop an evaluation plan, develop a methodology and indicators, and conduct surveys of community satisfaction and community impacts.

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IDRC Study/Acacia Initiative
Prepared for IDRC by Anne Whyte
Mestor Associates, Canada
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3. CIET Sentinel Community Surveillance

CIETinternational has recently established a regional office, CIETafrica in South Africa to develop its work in Africa. Currently it is working on several projects supported by IDRC, including one in collaboration with the Universal Service Agency on community telecentres (97-8911-01). I was asked to review the CIET work in South Africa and to advise on whether CIETafrica should be invited to develop telecentre impact projects in other Acacia pilot countries.

CIETafrica welcomed a more detailed review of their research approach and were very generous with their time and in sharing research materials. During a busy week for CIET, I was able to meet several times with the CIET fellows in charge of the telecentre project and the sexual violence project; to hold focus groups with local CIET interviewers and supervisors; observe interviews on location; observe coding and data entry by locally trained personnel, and read the raw data as it was being processed. The result was a much better sense of the CIET methodology and an appreciation for the quality and dedication that they bring to their work.

3.1 CIET telecentre project in South Africa

The telecentre monitoring and impact assessment project being undertaken by the Universal Service Agency (USA) and CIET is the most comprehensive longitudinal study of community telecentres within the Acacia program. Its strengths are its national sample survey approach, its longitudinal data, and its "stakeholder learning system"of information feedback which should enable the USA to evaluate the experience of its test program of 80 community telecentres in order to make policy recommendations to Parliament on the future role of telecentres in achieving universal access to communications in South

Africa.

3.1.1 Sample strategy

The large sample size of telecentres and the experimental approach of the USA in selecting pilot sites and varying the management models for the telecentres will enable the USA and the Acacia initiative to evaluate the factors which make one community telecentre more successful than another, from the perspectives of financial sustainability, service performance and community benefits. Essentially, the project is designed as a large scale experiment in how to locate, design, support and service telecentres in disadvantaged communities in South Africa. The association with CIET and its capacity to undertake baseline data on community needs and behaviour, together with two additional surveys (cycles) to monitor the performance and impact of the telecentres is a rare research opportunity for examining the role and impacts of ICTs on development.

An example of the experimental frame offered by the USA-CIET partnership within Acacia is shown in table 1. Different types of franchisee-managers will operate telecentres in different community settings while being provided with comparable packages of technology, training and technical support. This will enable a number of hypotheses to be explored about the most successful types of community organisation or private business to run telecentres and the key community characteristics that are necessary for a successful telecentre. The CIET national sampling frame will not include all the USA telecentre communities but will likely capture about 40 of them, hopefully spread across the range of community settings and management organisations.

The USA selected the communities for the first phase of telecentres on the basis of applications in response to a nationally advertised competition. Applicants had to provide evidence of their ability to work in the community, their commitment to community participation, their financial solvency and realistic business plan for the telecentre, that they could provide the necessary facilities, and that the community was disadvantaged and yet had sufficient demand to support a community telecentre. The initial focus is in three of the poorest provinces: Northern Province, Eastern Cape and Northern Cape.

In collaboration with the national statistical office, the CIET survey will draw a national sample of approximately 300 sites for establishing sentinel community surveys. This will eventually allow national level inferences to be drawn from the sentinel data. However, in this initial phase, in order to obtain early data on the impact of the telecentres, the first sentinel sites to be surveyed will be in the three poorest provinces where the USA telecentres will first be implemented. About 30 sentinel sites will be set up in each of the three provinces, which will provide a baseline for understanding how the communities presently satisfy their information and communication needs. In addition, 40 sentinel sites will be established in 40 of the pilot telecentre communities.

Table 1. Experimental design for community telecentres in South Africa: management models and community types

Management Group	Rural/ undeveloped	Squatter/ shacks	Township	Peri-urban
NGO	10	1	4	
CBO	11		2	2
Civic org.	5	1	1	2
Educ. Org.	3		2	1
Church	3			1
Local Radio station	2	1	1	
Political org.	1	1		
Individual/ business	12			3

These comparatively large samples will enable many hypotheses to be tested. All 130 sites will provide baseline data on community characteristics and how information and communication is accessed before any interventions are made. Comparison of the 40 telecentre communities with the other 90 non-telecentre sites in the three provinces will provide valuable insights into the impacts of telecentres on communities, and on any spin-off effects on communities without telecentres. Comparison of experience within the 40 telecentre sites will enable some conclusions to be drawn about the effects of different locations, community characteristics, management capacities and telecentre operators on the success of telecentres. The pilot telecentres as a group will test the technology, training and technical support package designed by USA for this first phase, and will doubtless lead to incremental changes as learning takes place..

Within each sentinel community, 100-150 households will be surveyed three times: a baseline survey and two cycles over the next two years to measure changes in telecentre awareness, use and impact. A total of 40,000 gender-stratified household interviews representing over 100,000 people will be conducted over the life of the project. In addition, the CIET teams will conduct about 500 focus groups in the communities for each cycle so that program action strategies can be assessed and refined . This will produce a total of 1500 small group discussions which are often stratified by gender and generation to provide further insights in to the social and economic environments of these communities. The other components in the sentinel sites is key informant interviews with local leaders and others, and institutional reviews. The advantage of this sample design is that the telecentre project sites can be compared to a nationally representative panel of reference communities in the three provinces. The large number of communities to be studied also ensures some variation in access to other sources of information and communication including private sector telecentres and community radio stations outside of the Acacia sample, which can also be evaluated.

3.1.2 Research instruments

The SCS research instruments are administered by locally recruited survey teams who can speak the local languages. Considerable care is taken in the initial design of the household questionnaires, in their

pretesting, revision, and translation into local languages, and cross-checking back into English. In order to reduce refusal rate and maximise the efficiency of the interviewers, the household questionnaire is kept as short as possible. Each interview takes about 10-15 minutes and can maintain the interest of the interviewee during that period. CIET has much experience in conducting such interviews over several cycles on very different topics, some of which are more sensitive subjects than telecentres (the sexual violence project in Greater Johannesburg, for example).

While the first questionnaire (Table 2) will obtain baseline data on needs for, and access to, information and communication, the second and third questionnaire cycles will repeat key questions and also focus on one or two issues in more depth. These issues will be driven by the needs of stakeholders, especially the USA, on the basis of earlier feedback to them. One of the concerns of the South African government is access to government information and the education of citizens in understanding their rights to information. The CIET study takes therefore a "rights based approach to ICTs". One of its emphases is to develop mechanisms for increasing awareness of these rights and measuring changing perceptions and assertions of rights to information, including government information.

The household surveys and institutional reviews conducted in the SCS communities are used to design the key topics for the focus groups and the key actor interviews. In this way, different perspectives and data on the same issues are obtained from four research instruments, which can be cross checked and tested by network analysis.

Table 2 Structure of SCS baseline household questionnaire for South African telecentre survey (not in order of questions)

Telephone	frequency of use, access to, distance away, time to travel, rates, ownership, purpose of last call, cost
Other ICTs	(copier, fax, computer, Internet) access to, use of, need for
Information sources	at community and national levels; about health, employment, business, education
Government services	quality of local government services, how accessible is govern information about government activities, consultation with co
Communication	how receive messages from outside community, on what topic
Perceptions, attitudes	biggest problem, desire to study, community leadership
Socio-economic status	major food expenditure, house construction
Household composition	number of members, gender, age
Individual characteristics	age, gender, education, employment status

3.1.3 Research team

The local interviewers are trained in one to two weeks and undertake pilot interviews observed by supervisors. They work in pairs (one male and one female). This has advantages for moral support and

personal security; matching the interviewer to the interviewee where needed for the gender or language spoken by the interviewee; and being able to have one person sometimes observe while the other is conducting the interview. The interview teams that I met, were well motivated, interested in the research issues and received continuous feedback and support from the CIET fellows during the survey process.

The interviewers are also trained to code the responses, working in pairs and with a supervisor available for advice. Being also responsible for coding the responses improves the quality and clarity of the data recorded in the next set of interviews because ambiguous information, missing data and illegible records taken by the interviewers become their own problems when they take on the role of coding the responses. Interviewers are also trained to do data entry on computers, using double data entry and a specially designed data entry format.

The local teams are thus involved in all stages of the research process from instrument design to data entry, except for data analysis and interpretation of results which are undertaken by CIET fellows, who are often internationally recruited from other CIET organisations. One concern is that the CIET fellow in charge of a survey may not have sufficient local knowledge. This can present problems in interpretation, and in the telecentre project, CIET plans to recruit up to six interns, some of whom can be senior, to work on data analysis and interpretation.

Many of the interview team members in South Africa are recruited from local organisations, such as NGOs, local government and civic structures. The advantage of this is both for the local knowledge that they bring to the project, but also the professional training that they take away to apply to their future work. Several interviewers felt strongly that the experience they gained in the CIET project would help them when they returned to their own organisations. They cited in particular, the hands-on experience of survey methods and interviewing; the insights that they gained during the interviews about local problems and needs; and better understanding about managing organisations and structuring team work.. The interview teams enthusiastically gave up one lunch break to work with me on learning "Office Skills 101" and characteristically would work as needed on weekends and holidays. The CIET approach includes a strong commitment to building the skills of the local research teams.

3.1.4 Stakeholder information system (SIS)

The information gathered in each cycle will be provided to several key stakeholders who will be able to use it to improve their own choices and performance. One group is the community itself, particularly community leaders but also each household as they better understand how to use the telecentre and what choices they may have. The planned communication strategy will provide feedback directly to those participating in the project, but also there will be information disseminated to the entire population of the three provinces through schools, post offices and radio broadcasts.

The second stakeholder group is the service providers, such as the telecentre operators and the groups managing the telecentres. They will receive feedback on what works and does not work in the running of the telecentres, not only from their own community but from the experience across the three provinces. Telecentre operators will be linked electronically in a discussion group and will meet once a year to hear the results of each community survey cycle. The experience of sharing information across telecentre operators in other parts of the world indicates that this stakeholder group is likely to benefit from learning lessons from one another and in sharing innovative and entrepreneurial ideas.

The third stakeholder group is the USA which is a primary beneficiary of the study. It is the USA's mandate to provide universal access to ICTs within five years and feedback on the experimental period of the first two years will be vital to achieving that objective, not only in fine-tuning its national "community telecentre roll-out" strategy, but in attracting private investors and other partners to its cause. Other important stakeholder groups include private investors in telecommunications, information providers and users, such as libraries, schools, and businesses; and government at national, provincial and local levels.

3.2 Extension of CIET Approach to other Acacia Pilot Telecentre Projects

One of the questions that I was asked to address with respect to the research framework for the Acacia telecentre projects is whether CIETafrica should be asked to undertake SCS survey projects in the other pilot countries. The main purpose would be to ensure comparability of research design and interpretation of results and that a research component is in place from the outset in all countries. Assuming that CIETafrica have the capacity to extend their operations to other countries in the short term (they are already engaged with projects several projects in South Africa other than the Acacia telecentre project), this would imply that Acacia would fund CIET surveys parallel to the present telecentre projects in Senegal, Mozambique, and Uganda.

For a number of reasons, such an approach is not recommended at this time. While CIETafrica would provide assurance of comparable research design and good data quality, it is not clear that they have the resources to mount community surveys in other countries to start within the next six months. More importantly, there is local research capacity already engaged with the telecentre projects in Senegal and in Mozambique. In Uganda, the logistical situation is less clear-cut. The researchers who would undertake the community impact studies have not yet been selected and CIET has already worked in Uganda so there is some possibility of accessing trained CIET local research teams.

There are also methodological reasons for not developing CIET projects on community telecentres in the other Acacia pilot countries at this time. The SCS methodology pioneered by CIET is based on community surveys that are statistically valid at the national level. This is most valuable when what is being measured is relatively frequent at a national scale. In South Africa, the national roll-out strategy for telecentres means that there will be a large enough number of community telecentres to capture within a national sampling frame. In Mozambique, the telecentres to be studied by Acacia will number two; in Uganda; three and in Senegal, they will total approximately 14. These small numbers in the other countries suggest that a case study approach is more appropriate than a national survey approach, particularly when the Acacia telecentres in Senegal, Mozambique and Uganda encompass include more variability of technologies compared to the relatively standarised ICT franchise package in South Africa.

If the number of telecentres coming within the Acacia research frame increases significantly after this first pilot stage, it might be worth revisiting the question of a broader, multi-national survey using the CIET SCS approach. The outcome of such a review would obviously depend on what research teams were already in place in each country and what results have been obtained , the resources available to undertake larger samples of communities with and without community telecentres, and the availability of CIET to undertake or supervise the work.

However, at this time, rather than initiating new CIET SCS projects in Uganda, Senegal and Mozambique, it is recommended that a collaborative research network be established for the Acacia telecentre projects in all four countries (section 7.1). This network would enable the research groups to collaborate through the development of common research instruments, sharing of information, and visiting each other's sites. If appropriate, CIETafrica could be asked to play a lead role in such an Acacia research network.

The research component in Uganda remains a more open question as local social science researchers have not yet been identified. Discussions could be held with CIET to explore if the Ugandan CIET team would be interested in undertaking the required community surveys using similar instruments to those developed by CIETafrica in South Africa.. Fortunately, the community participation groundwork in the UNCST project has already been started by the local Acacia project officer and her work can be built upon in the research studies.

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4. Proposed telecentre research framework

4.1 Research questions and hypotheses

The present Acacia telecentre projects will provide data on some 50-60 communities with telecentres (40 in South Africa, 14 in Senegal, 2 in Mozambique and 3 in Uganda) and approximately 50 communities (almost all in South Africa) without telecentres. The Acacia initiative thus presents a unique testing ground for some important research questions about the role of information and communication for African development. In almost all most cases, the telecentres will provide major improvements to the communities' present access to information and ease of communications. Today, before the pilot telecentres are established, a working phone can be many hours travel by bus. People spend significant amounts of both time and money to obtain information about everything from government regulations, to market prices to family events. A study carried out in 1993 in Uganda revealed that local government officials made a total of 40,000 trips a year to handle administrative matters that could have been handled by phone or mail, if these services were efficient and available.

The hypotheses that can be examined through the Acacia telecentre projects range from fundamental questions about the roles of information and communication technologies as catalysts for community development, to more specific questions about the ways in which community participation or different management models are success factors in operating the telecentres. The Acacia pilot projects offer a rare opportunity to test a large number of these hypotheses around a relatively uniform ICT package: the community telecentre.

The particular combination of ICTs provided by a community telecentre requires a supportive environment, both from the national policy level, and, particularly, from within the community. Telecentres mean sharing phones, computers and other equipment with little privacy in a common building. People must pay for some services and will need help from the operator to use others. They may have to wait their turn: the equipment may not be in service. Electricity supply may be intermittent. The telecentre operator is expected to provide much more than technical support; s/he is likely to be an adult educator, an advisor, an interpreter, and a community facilitator. The telecentres within the Acacia research frame present a range of situations in which many assumptions about the demand for telecentres, the appropriateness of the technology, the degree of community participation, the minimal

critical conditions for financial sustainability can be varied and tested.

In both South Africa and Senegal, the pilot telecentres in the Acacia projects are specifically being designed and located to evaluate the telecentre model in a range of community situations. These include communities with various supporting infrastructures (telecommunication, electricity, schools etc.), using different entry-point applications based around key user groups. The telecentres will also have different management and financial models and degrees of community involvement. The telecentres in Mali, Uganda and Mozambique that are being developed by IDRC in partnership with UNESCO and ITU, will provide experience of "higher technology" telecentres linked to specialised user groups. Each of the pilot Acacia countries provides a different national context for examining the relationship between national policy and community access to ICTs. Together, these variations in technology, applications, national context, community settings, and management models form the main planks of the telecentre research framework.

Without pretending to be definitive, table 3 provides an overview of the important research questions to which the Acacia telecentre projects, if they are treated *as a set rather than individually,* can provide some answers.

Table 3 Comparative research questions for Acacia telecentre projects

The role of ICTs in community development

- is there a genuine demand within poor communities for telecentres/ICTs?
- how does the local priority placed on ICTs compare to other facilities (e.g. sanitation, schools)?
- do the telecentres lead to other community development initiatives, and in what ways?
- (how) does the telecentre empower the community with respect to e.g. government or local authorities?

What are the key impacts of national policy on community access to telecommunications?

The national policies in the countries where Acacia telecentre projects are underway are significantly different in at least five important areas affecting the success of telecentres:

- the telecommunications infrastructure;
- the cost of connectivity to the telecentre operator and to the public;
- openness of access to the Internet and to private e-mail accounts;
- the speed at which the government itself provides information on-line;
- duties and customs on equipment.

What characteristics of communities are indicators that telecentre will succeed?

- are there minimum conditions in terms of population size, structure and geography?
- how far will people travel to use telecentre, and what is the relation to price and reliability of services offered?
- what level of literacy, income and employment, and economic activities are needed to provide adequate pool of users for telecentre?
- what community leadership, political support is needed for start-up and for continuity?
- what other local infrastructure and facilities are indicators of likely success (transportation, electricity, telecommunications, roads)?
- is the participation of key users groups critical or can the telecentre succeed as a "stand-alone" facility?

How is the community involvement and education related to a successful telecentre project?

- how do the ways in which the community is involved in, and informed about decisions to establish and locate a telecentre, affect the outcome?
- what are the roles of the community leadership and key groups in the telecentre ownership/management/operation/use?
- how much effort is needed to be invested in community education/awareness building about the telecentre to achieve a successful outcome?
- how far can a community telecentre succeed if it is externally or internally driven?
- what information is needed on prior community perceptions about the telecentre and their own information and communication needs to design the telecentre project?

What model of telecentre works best for each context?

- (when) is the community telecentre the best model (versus private telecentres, individual phones, school computers etc.)?
- what combination of (phone, fax, printer, computer, Internet, advanced tele-medicine) equipment is optimal for meeting different community needs and capacities?
- where should the telecentre be located (geographically and in what host institution)?
- what other revenue generating activities can successfully be combined with, and cross-subsidise a telecentre?

Telecentre users

- who uses the telecentres, for what purposes, with what frequency?
- what are they charged and what are they willing to pay?
- what are they giving up to pay for telecentre services?
- what is the success rate of user-attempts?
- what are the perceived and actual costs and benefits to users?
- are certain groups being provided special access (community groups, schools, political leaders)?
- are some groups disadvantaged in having less access (women, illiterate, poorer, older, living farther away, different ethnicity)?

Management/operational issues

- what are the advantages/disadvantages of different ownership/management models (NGO, CBO, public institution (school, library, hospital), specially constituted telecentre committee, private entrepreneur etc.)?
- what are the advantages/disadvantages of different forms of partnership between national government agencies, private sector, and local communities?
- what franchise arrangements work best?

Telecentre operators

- what technical skills, education, ability, language skills are necessary?
- should telecentre operators be from the local area?
- what training is needed for operators (technical, business management, adult education and
- community facilitation)?
- how do telecentre operators relate to local leaders and national government agencies?
- what technical support does s/he need to provide telecentre service?
- will an electronic network for telecentre operators provide appropriate support?
- what income arrangements work best (salary, profit sharing, other revenue generating activities)?

Financial sustainability of telecentre

- what are the financial objectives of telecentre and what is the business plan?
- what special start-up arrangements are made re cost of equipment, connectivity tariffs, technical support etc.?
- what subsidies (equipment, salaries, building, phone charges) are provided, by whom, and for how long?
- what financial arrangements are involved in any handover at end of start-up period?
- what is the pricing scheme for users and what flexibility does the management have?
- what are critical factors in financial viability for telecentres and what tradeoffs are made (in terms of universal access etc) ?
- what type of relationships exist between national government, telecentre management, private sector and the community?

Applications and information content

- what are the main applications for which the community has expressed a need?
- what are problems in getting required information (e.g. government department information, newspapers) on-line?
- what should be included in a starter information kit/CD Rom library?
- how can new community information needs be identified and responded to?
- how will distant education for different user groups work best and what facilitating environment needs to be provided?
- should telecentres seek to promote inter-community exchanges/networking?
- how should community-generated information be put on-line?
- what are the most successful entry-point applications?
- how should telecentres be integrated with other community ICTs such as community radio?
- how will priorities be set for applications wanted by different users?

Impacts and outcomes of telecentres on individuals and communities

The telecentres within the Acacia research frame are being established in communities which differ markedly in terms of population size, distance from urban centres, community infrastructure such as roads, electricity, schools, other ICTs like radio, level of adult literacy, income and employment patterns, economic activities, degree of community cohesion and homogeneity, presence of community groups and identified lead user groups. This range may allow some generalisations to be reached about the community characteristics which can be used to predict where telecentres are likely to be most successful.

- what are the main direct and indirect cost and benefits to users and non-users?
- what are the impacts of different key applications (small business support, distant education, emergency response, personal communications etc.)
- what are the different impacts of successful and failing telecentres?
- what are social, economic, cultural impacts on different groups within community?
- what new demands are created by the telecentres?
- do telecentres perpetuate the dynamic of urban-rural links or also encourage more exchanges between small communities?
- what evidence is there that telecentres strengthen democracy? Local pride? Local development initiatives?
- how do communities with and without telecentres differ on a number of economic, communication, social and cultural dimensions over time?

4.2 Community needs for information and communication

One of the important assumptions of the Acacia initiative is that the widening information gap between poor communities and much of the rest of the world is not only of concern to national governments and

the international development community, but is a priority for improvement within the poor communities themselves. One of the early data sets needed in establishing a baseline for evaluating the pilot telecentres relates to the locally perceived needs for, and expected benefits of the telecentre. Some initial data on the key applications for community telecentres were collected during the field visits for this study (Table 4).

Table 4 Information and communication needs expressed by communities in Senegal, Mozambique, South Africa and Uganda

Government

- government regulations, legislation, procedures, "how to do it guides"
- up to date information on taxes, incentives, subsidies, quotas, tax changes
- general public information about government
- access to government "one stop government electronic service"

Agriculture

- up-to-date information on markets and prices
- data on pests, infestations, animal diseases and how to control them
- improved (appropriate) technology for traditional crop cultivation and animal husbandry
- "how to" information on new, more profitable, agricultural initiatives (e.g. mushroom growing, rabbit rearing, egg production for urban markets)
- better information about improved animal breeds and veterinary information generally
- telephone access to vets and artificial insemination services
- communications to organise load sharing for truck transportation
- listings of where seeds available of specific qualities and quantities
- listings of spare parts availability for agricultural equipment
- post harvest technology (cold storage etc.)

Small business

- information on prices, demand and competition in different markets
- computerised small business accounting systems: bookkeeping, profit and loss information
- inventories, stock management
- best practices, business management, start-up
- information on credit, small loans, revolving funds: how and where to apply
- opportunities for export; import/export procedures
- electronic commerce

Health and environment

- AIDS/HIV information
- family planning information
- health education, childcare
- information on water and sanitation including water related diseases
- appropriate technology for latrines, waste management (including night soil)

- energy technology including biogas and solar driers
- medicinal plants, traditional medicine, biodiversity
- nutrition, recipes, new ways of cooking
- telephone access to doctors, midwives, medical services

Public Organisations (hospitals, schools, local government, NGOs. CBOs)

- creating and maintaining computerised databases (patients' records, student enrolment)
- reporting to headquarters; notifiable diseases, crime incidents, monitoring, routine requests for supplies etc.
- local communications network (ambulance dispatching, linking schools, NGOs etc.
- "how to" organise communities, establish new organisations, develop group dynamics
- emergency response communications
- access to drugs registries and medical expert systems
- access to general reference libraries and on-line information

Education

- distance learning, especially for teachers, school students and unemployed youth
- adult literacy
- skills upgrading and certification
- learning new, income generating crafts, especially for girls
- general self-learning and self-improvement
- group education sessions using audiovisual equipment

Empowerment/democracy

- "only people armed with information have the power to do things"
- "we'll get more improvements if we have the communications to ask for them"
- access to newspapers, magazines; what is going on in the capital city and the world
- "find out what our government is doing"
- teach young people about local cultures and traditions; instill pride in society

Family/personal/informal sector

- communications with absent family members, overseas migrants
- communication with family members caring for children
- money transfers for family, business
- information on jobs
- employment applications

Table 4 is important because it shows that (a) in each of the communities visited, people can identify their information and communication needs in specific terms, and (b) that there is a set of applications that is commonly desired in many of the communities visited in the different pilot Acacia countries. These findings form the basis for the recommendation that IDRC and Acacia consider how to provide a starter-kit for community development initiatives through the telecentres.

4.3 Suggested common data collection at community level

Discussions with each of the Acacia telecentre project research teams indicate that there is a common understanding of the need for collecting common data on the communities selected for community telecentres, as well as those in the sampling frame which will not have telecentres during the lifetime of the initial project and can therefore act as reference communities and points of comparison. In Senegal, the ENDA project plan to follow progress in communities with and without telecentres, as will the CIET team in South Africa. In Uganda and Mozambique, there is the possibility of some comparative study of communities which were considered for telecentres but will not be receiving one in the first phase although such comparisons were not anticipated in the original project proposal. This question needs to be further discussed with the research groups.

The data needed for each community fall into several major topic areas and will need to be collected at a minimum before and after the establishment of the telecentre. Preferably longitudinal data will be collected over several years in order to capture longer term outcomes that will not be evident within a shorter time frame.. Within each topic area, specific questions, indicators and measures will need to be designed, and these are best done by agreement between the research teams. Some may be able to defined before field work begins on baseline data collection, but more realistically, the indicators will be worked out through discussions and trials after initial surveys of the communities have been undertaken.

The objective is to have a core body of comparable data across all the Acacia projects while leaving sufficient scope for exploring issues of particular interest in different projects in more depth, and sufficient flexibility to the research teams to adapt the generic data collection to the needs of specific situations. What is needed is not a research straitjacket but rather a common framework of inquiry. An initial scoping of the topic areas suggested for common data collection across the Acacia telecentre projects is provided in table 5. This table, or some revision of it, could serve as a point of departure for discussion by the proposed research network (section 7.1).

Table 5 Suggested topics for common data collection at community level for Acacia telecentre projects

MAIN TOPICS	*ISSUES/ SOURCES*	*QUESTIONS / SPECIFIC MEASURES*
COMMUNITY CHARACTERISTICS		
	Household data	household size, composition including contributing members working or resident outside community, ethnicity socio-economic status, educational status of head of household, income group, employment status, housing type and ownership, location with respect to telecentre,
	Key groups and leaders	key community groups (purpose, size, activities, organisational capacity and reach into community) identify community leadership (basis for leadership role, vision, support for telecentre)
	Community	Name and administrative status, population size,

	data	geographic distribution, infrastructure and public services (roads, telecommunications, post office, electricity, schools, health facilities etc.), main economic activities, distance from major service centres, environmental setting
COMMUNITY TELECENTRE		
	Location	Street location, host institution (school, post office etc.), position with respect to population served
	Facilities and Equipment	*Infrastructure:* building/rooms, security, power supply, telecommunication, *Equipment*: telephones, photocopier, fax, computers, modem and Internet connectivity, radio, television, VCR, typewriter, printer, scanner, audiovisual aids *Other facilities in/with telecentre,* e.g library, sales of office supplies, refreshments, post office, radio station, meeting rooms
	Ownership/ management	*Start-up; initial phase; longer term* ownership/management arrangement, franchise conditions, local groups involved, community participation in ownership and management
	Services	*Telecommunications* public telephones, fax, Internet access, electronic mail, subscription services (e.g. latest market prices), distance education *Other services* photocopying, word processing, spreadsheet and data base services, typing services, in-house education/training, advice office, small business support, printing of business materials, cultural and group activities, entertainment etc.
	Operator/staff	*Telecentre staff:* number, gender, age, education levels and training, language proficiency, knowledge of local community, employed by whom, report to whom *duties*: technical support, reception and sales, accounting, adult education, group facilitation, community relations, hours of operation
	Financing	*Start-up:* cost and sources of funding for start-up and initial training; contributions from local

		community, government, subsidies, external donors, private sector etc. *Initial phase* operational costs and revenues, technical support costs, equipment maintenance and replacement, prices charged for services, cross subsidies or cost recovery, special rates and tariffs for telecommunications etc *Longer term* cost and sources for upgrading equipment and facilities, technical support services, outlook for financial sustainability, partnerships with private sector, competing facilities etc.
COMMUNITY INFORMATION AND COMMUNICATION		
	Sources /access	*Prior/without telecentre* Main sources of information needed for personal and work reasons, and main contacts for communications outside community; how were sources and contacts reached and how reliable was access to them? *After telecentre operational* Changes in frequency and reliability and types of sources accessed for information and communication
	Needs/demand	*Prior/without telecentre* Main information needs (work, education/training, personal/group) *After telecentre operational* Which of above needs are met by telecentre and to what level of satisfaction? What new needs/demand have arisen and how has telecentre met them? *Longer term vision* What long term vision and demand has been developed for telecentre's role?
	Costs	*Prior/without telecentre* What are costs to meeting information and communication needs (money, distance travelled, time, frustration)? What are their expectations of telecentre? How do they expect to use telecentre? *After telecentre operational* Are they using it? What do services cost? How reliable are they? What other means of meeting

		information and communication needs are still used?
	Satisfaction/ benefits	*Prior/without telecentre* How satisfied are potential users with current situation and facilities? Does telecentre meet their prior expectations? What are perceived benefits/costs of telecentre? *After telecentre operational* Satisfaction with telecentre in meeting communication and information needs and perceived costs and benefits.
TELECENTRE USE AND PERFORMANCE		
	Operator	*Users* Monitoring log on characteristics of users, frequency and purpose of visits, equipment used, facilitation needed, cost to user, satisfaction *Non-users* Characteristics of non-users, perceived reasons for non-use, attempts to reach/ attract non-users *Performance* Hours of service, numbers of customers, equipment performance and reliability, telecommunications access, pricing structures, revenues Integration/ competition from other telecommunications service providers *Vision* Longer term needs of community for telecommunications and services Proposed improvements/ changes
	Users	*Prior expectations* How expected to use telecentre? How /why use patterns differ from expectations? *Use and performance of telecentre* What services used, how often, for what purpose, and with what success? How much cost in time, distance travelled, money and frustration? Satisfaction with services; ways could be improved. Comparison with former access to services.
	Non-users	*Prior expectations* How did you expect to use telecentre?

		Why did this not work out? *Use and performance of telecentre* Did you ever use it? What was your experience? Why do you not use it now? How could be improved to serve you? How do you meet your IC needs? *Impacts* How would you describe the differences between users and non-users? What are the main impacts/changes cost/benefits of the telecentre to you, to users, and to the community? Who is better off/worse off?
	Community leaders, telecentre management and key local groups	*Prior expectations* Expectations for telecentre and how far realised. Knowledge of telecentre services *Use and performance of telecentre* How do you use it and does it meet your needs? How could it better meet your needs? How involved are you in decisions about telecentre operations? Who are the users and non-users of telecentre in community? Why? What is your longer term need and vision for telecentre?
IMPACTS OF COMMUNITY TELECENTRE		
	Users	How has telecentre changed your life/work/family situation? What are main costs/benefits to you? What are main impacts on community? What future changes do you see?
	Non-users	How has telecentre changed your life/work/family situation? What are main costs/benefits to you? What are main impacts on community? What future changes do you see?
	Community leaders and key local groups	How has telecentre impacted your life/work/role/group?

	What are main costs/benefits in short and longer term? What lessons have you learned and what would you do differently?
Information providers, government	Has telecentre increased community access to you/demand for your services? In what ways are you responding to meeting community needs/demand for information and communication? What have been costs/benefits/impacts on your own operations of community telecentres? What have been impacts within communities served/not yet served by telecentres?

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TELECENTRE RESEARCH FRAMEWORK FOR ACACIA

IDRC Study/Acacia Initiative
Prepared for IDRC by Anne Whyte
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5.0 Research methods

5.1 Proposed research methods for community level analysis

There is already considerable common ground in the key research questions being addressed by the various research teams involved in the Acacia pilot telecentre projects. The research methods being developed in each project also have some overlap, but there are definite differences in approach and in underlying philosophy, as well as in depth of experience in social science research that warrant further discussion and sharing of ideas between the research teams. This section reviews the research methods being proposed for the different telecentre projects as a basis for that discussion.

The aim is not to impose a uniform approach or methodology, because the richness of Acacia's results will lie in the strengths and insights that each research team can bring to the overall enterprise. Rather, the purpose is to encourage and facilitate the adoption of a common core of methods and research instruments which will enable comparisons to be made between the community telecentre projects and also to generate broader generalisations about the role of ICTs in disadvantaged African communities.

For example, the larger samples and sampling strategy of the CIET team in South Africa will enable them to make national inferences from their data. This will not be possible in the other countries. The ENDA team in Senegal are adopting a long term participatory research methodology (research-action-training) which should provide greater insights into community group dynamics and capacity building within the telecentre communities. In Mozambique, the university team is closely linked to the national policy group for telecommunications which will facilitate the uptake of research results into national policy. If the learning from these different approaches is effectively shared across the Acacia initiative, and is also linked into a common research core, the overall research quality of Acacia will only be strengthened by its diversity.

There are nine main research approaches being used in Acacias€s telecentre research framework, applied with different levels of intensity in each project. These are:

1. Household survey
2. Telecentre operator monitoring
3. Telecentre user surveys
4. Key informant interviews
5. Focus groups
6. Institutional reviews
7. Ethnographic case studies
8. Participatory research
9. Electronic exchanges

It is important that each method be designed and applied so that it complements the data provided by other methods, and provides cross-checks on data accuracy and relevance where possible. Well structured surveys can provide quantitative data across certain populations but will not provide the in-depth analysis gained in a good ethnographic case study or a long term participatory research project. The Acacia projects are already designed around a range of methods; the approach proposed here is to capitalise on that range and bring some more focus and structure to the collective endeavour.

5.1.1 Household surveys

Household surveys are recommended to be undertaken in each telecentre community. A household survey provides an overview of the whole community, not just those who are using the telecentre, and will enable a better understanding of the differences between users and non-users and the complexity of social and economic impacts the telecentre has across the different sub-groups of the community.

The household surveys should use a sampling approach which enables valid generalisations to be inferred for the whole community under study. Once the SCS sites has been selected, the CIET method is to use stratified cluster sampling of households from randomly determined locations, which is cost-effective in interviewer time and transport logistics. Providing the sample clusters cover the socio-economic and geographic variability within the communities (especially distance from the telecentre), this approach could be adopted in other Acacia projects.

Ideally, the household surveys would provide some longitudinal data by measuring household behaviour and perceptions before the telecentre is operational, and approximately one and two years later. The CIET household questionnaire takes only 15 minutes per respondent and could be a starting point for the other teams to design their own surveys. In any case, the household surveys should include questions relating to perceived need for information and communication, expectations about the telecentre and its impacts, recent behaviour with respect to sending and receiving information and communication outside the community, development priorities, impacts of the telecentre, as well as basic data on the individual, household and community (see table 2 for the CIET example).

If the different research teams agree to use some common questions in their household surveys, the

Acacia research framework would enable some quantitative as well as qualitative data to be generated to compare the experience of households and communities with and without telecentres in the different countries, at different periods of time. This is an important opportunity for some meaningful comparisons about the impact of ICTs in disadvantaged communities in Africa to be made, and it should not be missed. It is recommended that this is a first item for discussion between the research teams so that comparable baseline studies are undertaken within the next few months.

5.1.2 Telecentre operator monitoring

Each of the telecentres will be staffed by an operator who will be expected to keep certain records for business purposes, such as client numbers, equipment breakdowns, hours of operation, sales and revenues. Without burdening the operator unduly, there are additional monitoring and record keeping that could be maintained by whoever is staffing the telecentre that would contribute to the research aspect of the telecentre projects. These might include the type of assistance clients needed to operate the equipment, the requests made for service that could not be fulfilled with existing resources, the information and software most in demand, the characteristics of clients. Records should also be kept of the times that equipment were out of service, or there were power outages etc.

The research teams should work with the owner/managers of the telecentres and with the operators and staff to identify the information which can be collected through electronic and/ or manual record-keeping by the telecentre staff, and which will be useful to both the telecentre management and to the Acacia research program. Regular (weekly, monthly) transfer of these monitoring data can be made (ideally electronically) to the research data base. Again, at least some of these data should be common across the different telecentre projects.

5.1.3 Telecentre user surveys

While the household surveys will provide data on the characteristics of users and non-users and on the impacts of the telecentre on both groups directly and indirectly, some additional data can be obtained on the needs and behaviour of users while they are in the telecentre. This information can be focussed more specifically on the services provided by the telecentre in order to improve telecentre design and performance and to better understand the userss€ needs and expectations. User surveys can range from passive data collection; for example, by having available on the counter a short form requesting users to provide feedback and comments; to more pro-active and structured interview surveys of samples of users in the telecentre carried out at specific times throughout the study.

The advantage of user surveys carried out in or near the telecentre is that the questions will have immediate relevance for the user and are likely to yield good data, especially if they are conducted by the research team rather than by telecentre staff. They can also be used to cross-check information provided by the telecentre staff about service to users and how far user needs are satisfied.

Telecentre user surveys can be taken periodically to measure changes in telecentre user characteristics and to fine-tune service delivery and measure performance. The research teams should be encouraged to discuss the method with the telecentre operators and owner/mangers in order to establish priorities for data collection and to obtain their agreement in principle, prior to having joint discussions with the other research teams to design a common research instrument and similar sampling strategy. A common research instrument is likely to be more easily reached for telecentre user surveys because the topics for feedback needed by the telecentre managers is likely to be common across communities.

5.1.4 Key informant interviews

All the research teams intend to undertake individual interviews with key informants. The key informants will be drawn from all the main stakeholder groups, within the communities and within the main service and information providers who have an interest in the telecentre pilot projects. These groups include:

- community leaders
- local politician and local government
- key groups in the community (NGOs, chamber of commerce, womens€s associations etc)
- representatives of key institutions in community (hospital, police, schools)
- telecentre owner/managers/operators
- telecommunications agency
- national and provincial government departments involved in telecommunications or reaching communities through telecommunications
- private sector interested in telecentres

Key informant interviews provide information and insight to the study from particular perspectives and expertise, and can enable the researchers to give feedback for further comment to key actors on findings from other sources, such as community focus groups or household interviews. This again enables cross-checking of information and data shtriangulationso. While the key informant interviews are to some extent, specially designed for each informant or key group, it would be helpful for the different research teams to share ideas about the categories of key informants and stakeholders they will include in their studies, and the main topic areas to be covered.

5.1.5 Focus groups

As a means of further probing and checking information gathered through methods such as household surveys and user surveys, focus groups are strongly recommended. The CIET team will undertake about 500 focus group discussions during the course of the South African telecentre community surveys and have developed the technique to be efficient and accurate. In the SCS method, two members of the research team are involved in each focus group: one acting as moderator and one as a rapporteur/observer. A focus group discussion can be based around as few as six people and a few key topics or questions. The richness of the data is in the debate that takes place; the airing of different views; the group stimulation for people, who may initially be reluctant speakers, to voice their opinions; and (where appropriate) the degree of progress made by the group towards some common middle ground.

A number of focus group discussions should be held within the community, structured around any breakdown of the population that is useful to the research inquiry. Focus groups should in any case be held with the main stakeholder groups and key institutions and organisations relevant to the telecentre. They should also be held with users and non-users grouped by characteristics such as gender and generation, ethnicity, language, educational level, socio-economic status and distance from the telecentre. Again, focus group discussions held early in the research project will provide a baseline for comparing the results of later focus groups held one or two years later.

5.1.6 Institutional reviews

Some of the key institutions and organisations in the community and outside that are involved in managing the telecentre, are key service providers or key clients should be studied from the perspective of their capacities, needs, structures, leadership and linkages. These reviews will complement the data from household surveys and key informant interviews to provide a more rounded view of the community and its key external partners in the context of ICTs. The institutional reviews will vary in detail but are essentially to provide more detail on particular structures and nodes of activity in the community, and to

better understand the group dynamics and organisational capacities within the community.

5.1.7 Ethnographic case studies

The dramatic shift in access to information and communication that an operating telecentre will bring to a community previously without even a telephone service, will almost certainly lead to complex changes in community relations with the world outside and to differential costs and benefits, shwinners and losersso within the community. These social, economic and empowerment impacts and longer terms outcomes are less amenable to tracking through household surveys and are best explored through ethnographic methods.

It is recommended that as a first step, the Acacia research teams discuss this proposal, which was not included in the original research projects funded by Acacia, except in Senegal, to see if such studies could be undertaken in selected communities and how they might relate to the overall research design. The intent is that a common research framework be reached for the Acacia case studies so that they have some research hypotheses and questions in common.

The proposal here is not to undertake a comprehensive ethnography of each community, but rather to have more focussed in-depth case studies of particular aspects or segments of the community with respect to key questions of information and communication. More than one such case study could be undertaken within a community, probably by different researchers or students. There is also a good rationale for not deciding on the topics beforehand except in general terms and instead identifying the focus of the case studies on the basis of research questions which emerge from the baseline household surveys, initial institutional reviews and early focus groups. In section 7.4 a mechanism is proposed for implementing the in-depth case studies.

5.1.8 Participatory research

The ENDA team in Senegal have considerable expertise and experience in participatory research which requires long term commitment to particular communities and groups and working closely with them, while at the same time teaching, learning questioning and observing. Much has been written on the strengths and weaknesses of participatory research as scientific method; on the advantages of insider understanding and integral capacity building, and the concerns over research bias and loss of independent inquiry as well as the large commitment in terms of time and effort, and the dependency that the community may develop on the intervening group This latter issue is one raised by ENDA themselves and one which they would like to test as part of the telecentre project.

Mainly through the ENDA project, participatory research is included in the Acacia research tool-kit and the question arises whether there are opportunities in Mozambique and in Uganda where the number of telecentres being studied are small and the need for shmentoringso and capacity building may be considerable, whether a more participatory shhands-onso approach might be appropriate. This proposal could be discussed by the research teams, after the ENDA group have had the opportunity to present their approach in more detail, to see if it could be applied or adapted to the other projects. At the same time, the research network could review how far the CIET methodology actually strengthens community capacity without building in dependency.

5.1.9 Electronic discussions

A number of electronic networks have been proposed within the framework of Acacia and linking Acacia to wider networks. One such network to be established will be for the telecentre operators in South Africa so that they can exchange experience and ideas and receive common communications from

the Universal Service Agency relevant to their duties. This report will also recommend that the research teams for the Acacia telecentre projects be linked electronically. It has also been proposed that a wider network of telecentre projects across Africa and funded by different agencies be established and its discussions moderated by IDRC Bellanet or Acacia.

These electronic networks have obvious benefits for the participants and a wider contribution to make for learning in Acacia. They can also provide specific research data if the discussions can be captured, and the traffic recorded in some useful ways. It is particularly useful if the discussions are moderated and structured to discuss issues relevant to the research inquiry.

5.2 Acacia start-up tool kit

It became apparent during the group discussions and informal meetings held in each of the telecentre pilot projects visited that there was core set of development information among the expressed needs for applications as shown in table 4 . Many of these applications can be found in the types of research results produced by projects funded by IDRC and other donors over the past two decades. Examples include improved latrines, night soil technology, alternative energy like biogas and solar energy sources, post-harvest technology to reduce crop losses, animal husbandry techniques, AIDS/HIV and family planning information.

It is proposed that the Acacia leadership consult within IDRC to see if there is any interest in collaborating to produce an shAcacia Community Development CD-ROM sh which would include the basic information, designs of appropriate technology and shhow to sh practical guides responding to key topics identified in the telecentre communities. Such an initiative would also provide a mechanism for IDRC to capitalise on its investments in research projects by disseminating them in a new and cost-effective manner directly to key groups of potential beneficiaries: local organisations and disadvantaged communities in Africa.

In addition to the CD-ROM, the start-up applications kit should provide linkages or information on key Internet sites where more information can be accessed about these community development applications at a level that is appropriate to the end-users. Frequently, I was told that such information is desired, and is not readily available, based on experience in Africa or in other developing regions, rather than from advanced industrialised countries.

Another reason for urging consideration of this initiative is that community members seem to have an over-optimistic view of how easy it will be for them to use computers and access the information they want from the Internet. It will be important to help ease this learning process in any way that directs them to find the information they need and can use so that, especially at the outset, the telecentre operator can be supported to demonstrate some early achievements with respect to applications.

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IDRC Study/Acacia Initiative
Prepared for IDRC by Anne Whyte
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6. Existing national structures for learning and evaluation in Acacia

The Acacia initiative places priority on maximising learning and applying lessons learned as part of an ongoing research and implementation process To do this, it needs effective mechanisms for disseminating information, ensuring feedback to and from stakeholders, and linking research teams and key stakeholders to facilitate dialogue and mutual learning.

For the telecentre projects, some of these mechanisms are already in place, or are being developed. Acacia has established national structures in its four pilot project countries for developing research capacities, sharing information, evaluating results and for translating results into policy and action. These structures are differently configured in the four countries, but in each, they serve as a framework for information exchange between the research projects and key national decision-makers for access to information, telecommunications and other important national policy areas.

6.1 Senegal

The most comprehensive Acacia national structure already established is in Senegal. There are three levels: Sectoral Working Groups, Transverse Working Group, and National Acacia Forum. The Working Groups include researchers and experts, from the Acacia projects, research institutions, NGOs, community groups and government. Working Groups have been established for:

- education and training;
- employment and income generation;
- natural resources management;
- health; and
- governance.

The mandate of the sectoral working groups is to:

- Study in more depth issues relating to ICTs within their specific sector, especially in relation to community needs and their effective participation in the national strategy, and paying particular attention to the needs of women and youth;
- Follow ICT developments and relevant policies for each sector;
- Explore complementarities between stakeholders to encourage partnerships within sectors for project development and implementation;
- Identify and propose research, training and awareness building activities in each sector, especially those involving partnerships.

The Transverse Working Group is composed of all the Sectoral Working Group Coordinators as well as other experts and representatives of organisations groups who work horizontally across sectors. The mandate of the Transverse Working Group, which meets once every three months usually at the location of one of the projects, is to bring together the research studies, training needs and awareness building activities identified as common needs across the Sectoral Working Groups; to provide support to inter-sectoral initiatives such as training, introduction of participatory methods, gender analysis, and institutional capacity building and to review common policy issues.

These groups meet together and with key leaders in government and the private sector once a year in a National Acacia Forum to evaluate progress and lessons learned and to promote partnerships for future initiatives. There is also a proposal to establish regional focal points for Acacia, through inter-NGO cooperative mechanisms.

6.2 South Africa

In South Africa, a National Steering Committee for Acacia is being established which involves government representatives from key sectors such as telecommunications, university research institutions, and the private sector as well as IDRC. This committee provides linkage between Acacia and government policy as well as potential partners in the private sector. There is also a project steering committees for the Acacia community telecentre projects. The central agency in these networks is the Universal Service Agency, which is also the key player in a major conference in November 1998 on "Building the Information Community in Africa" where community telecentres will be on the agenda.

The USA plan to link all their telecentre operators into a network for mutual support and learning. Most of the exchanges will take place electronically, but there is a proposal to hold one face-to-face meeting annually. This network will include some 80 operators within the first year and will be a good basis for extending it to other Acacia pilot countries.

6.3 Mozambique

A Mozambique Acacia Advisory Committee (MAAC) has been established to oversee the telecentre project and to provide a key linkage between research and policy. It is chaired by the Minister for Economic and Social Affairs and includes members from the university, government telecommunications agencies, government departments and the private sector. The first meeting was held in Maputo on May 14 1998 during the visit of Kate Wild and myself . The meeting was very frank and clearly showed the commitment and interest of the various parties, including the Minister in the Chair, as they assessed various policy initiatives needed to support improved access to information and communication by communities.

The Acacia project and the national committee are supported by a small Acacia secretariat in the Centre for Informatics at the University Eduardo Mondlane.

6.4 Uganda

In Uganda, the Acacia secretariat is housed at the Uganda National Council for Science and Technology, which is the executing agency for the community telecentre project funded by IDRC. The Acacia secretariat also serves a Uganda National Steering Committee for Acacia which elaborated a national Acacia strategy in December 1997. The first phase of this strategy was to hold consensus building workshops in five regions of the country in order to build awareness of ICTs and identify where the first pilot community telecentres would be established. A national training workshop was held for community facilitators in April 1998.

One of the issues which needs an early resolution for strengthening national strategy in Uganda is to improve the linkage between the Acacia community telecentre projects being undertaken by the Uganda National Council for Science and Technology and the Nakeseke Multi-purpose Community Telecentre funded jointly by UNESCO, ITU and IDRC. The Nakaseke project has its own national and local steering committee structures through the Uganda National Commission for UNESCO. One proposal is to have the manager of the Nakeseke telecentre be a member of the National Acacia Steering Committee.

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7. Proposed ELSA mechanisms for community telecentre projects

The enthusiasm of those involved in the Acacia community telecentre projects for sharing information and networking with other projects provides a good basis for developing mechanisms for collaboration across the various projects. While it will not be easy to arrive at common data collection and research instruments when it comes down to detail, such cooperation will be vital to Acacia's strength as an international research initiative. A number of possible mechanisms were discussed with the research teams and IDRC and Acacia program staff, and were reviewed in more detail with the Acting Executive Director for Acacia as they have financial as well as program implications. They are proposed here for further consideration by IDRC.

7.1 Community Telecentre Research Network

The most immediate mechanism that needs to be put in place is a network of the research teams which will be studying the telecentre projects at the community level. These are not necessarily the same individuals or organisations which are responsible for implementing the telecentre projects, but those with research skills, especially social science, evaluation and community participatory research and action.

The research network should be focussed on research collaboration in the design of research instruments and research methods, the identification of some common data collection and discussion of appropriate indicators for measuring community characteristics and community impacts and outcomes. There is some urgency about launching the network as the key players should meet within the next six months in order to discuss details of baseline studies and overall research design before the telecentres are fully operational.

While in the longer term, the network can function largely as a electronic network to be an effective continuous learning mechanism for ELSA, it should start with a face-to-face meeting. This is because the issues to discuss are not easy ones: they will involve compromise and good will in reaching agreement. It is proposed that the research leaders be invited to a first meeting of the Acacia Telecentre Research Network early in 1999. This would ensure that adequate time is available for all the research teams to prepare for the discussions and to share their draft or baseline research instruments with one another prior to the meeting. The Regional Director for ROSA has offered to host the meeting in Johannesburg which might be able to take place at the same time as the international conference planned for February 1999 on *Building the Information Community in Africa* which is co-sponsored by the British Council, IDRC and others.

7.2 Telecentre operators network

The telecentre operators are proposed to be a key group for recording data on the performance of the telecentre, the demand for its services and the characteristics of the users. In South Africa, it is already planned to link the telecentre operators into a network which will communicate electronically to share experience and ideas on their roles and the challenges they encounter.

This proposal would build on the South African telecentre operators' network in two ways: to link in the relatively small additional numbers of telecentre operators in the Acacia projects in Senegal, Mozambique and Uganda and make the network Acacia-wide, and to add a research or monitoring component to the discussions. This research component could be moderated by one of the research teams or through the mechanism of the Acacia secretariat offices to ensure that data are collected and shared on a regular basis and that the data are examined and discussed for their research implications and lessons to be learned.

One of the issues to be resolved in linking telecentre operators from Mozambique and Senegal into the network will be that of language. It is not known how far the discussions would work if contributions can be made in either English, French or Portugese or if the Acacia national secretariats could help in translating key contributions into English which will be the language of the majority of participants.

7.3 Acacia telecentre web pages

A number of the community groups who will be managing the telecentres are keen to share their experiences with others via the Internet and are planning to develop web pages to promote learning across community telecentre groups and beyond. For some groups, such as some of the women's groups met in Senegal, they will need help to do this. More generally, there is a strong sense of wanting to learn from other communities *in Africa* and a sense of identity with Acacia and other Acacia telecentre projects. Acacia might wish to host its telecentre project home pages and help to generate that sense of community through its technical assistance and common image.

7.4 Acacia small grants network for community case studies

In Senegal, some support is already foreseen in the TradePoint project to fund university students to undertake community case studies in the pilot telecentre communities. In South Africa, discussions have been held within the universities to collaborate in supervising students to undertake thesis studies related to ICTs in communities. It is proposed to build on these two initiatives to establish a more structured network to link selected university departments in Senegal, South Africa, Mozambique and Uganda to support student research linked to the Acacia telecentre projects. The funding mechanism proposed is a small grants project funded by IDRC as part of Acacia.

The involvement of universities is necessary to ensure that adequate supervision is provided to the students and that the project meets university thesis and course requirements. There will also be greater interest and awareness generated among key university departments' staff and students about the need to study ICTs as a development issue and capacity building in field research in disadvantaged communities.

The present proposal is that the students might well undertake the studies in their own communities or local areas so that they start with some familiarity of language, geography and culture. Their living expenses would also be lower. The case studies would be focussed rather than open-ended village studies, and more than one small study undertaken by different students could be undertaken with respect to one telecentre. For example, one study could examine social impacts from a gender perspective and another with respect to a particular institution, such as a school, or a certain community based group. The students' work would be guided by an overall research design developed for the case studies to ensure that the case studies follow a general outline and will complement one another in a general way. It might be possible to also develop a companion guide to field study methods for the use of students.

The research design and methodological guidelines will need to involve both the Acacia research teams and the university teachers, but effort invested in developing such an African research network linking universities and Acacia researchers will be rewarded in terms of capacity building as well as research results.

7.5 Acacia's role in sharing experience on community telecentres across Africa.

It has been suggested that Acacia is well placed to play a key role in evaluation and learning networks beyond the Acacia telecentre projects. The PICTA group (Partnership for ICTs in Africa) which includes the World Bank, UNDP, WHO, USAID, (ACCT), Carnegie Foundation, Kellogg Foundation and IDRC, have asked IDRC, ITU and UNESCO to act as the *focal group* to establish a network for the research and development of community telecentres.

PICTA also proposes to establish an electronic forum for sharing information and learning across Africa where pilot telecentres are being tested. The question was raised by the USA in Johannesburg whether IDRC would be willing to host such a forum and to provide technical and discussion moderation services.

This is a resource and policy issue for Acacia which goes beyond the terms of reference of this report. The USA felt that, if IDRC does not undertake this role, and fairly quickly, some other organisation would step in because it was becoming generally recognised that a learning and evaluation function was needed for assessing the community telecentres being installed across Africa. This report does not make any recommendation but draws the questions to the attention of IDRC and Acacia.

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8. Summary of conclusions and recommendations

1. There is a demand for ICTs

There is a strong and well articulated demand among the disadvantaged communities where telecentres are planned for improved access to information and communication and a widespread concern that the present lack of ICTs is a major barrier to their development. The telecentres to be studied by Acacia will provide major improvements to the communities' present access to information and ease of communications. Before the community telecentre is established, a working phone can be many hours distant and significant amounts of both time and money are currently expended on trying to access information.

2. Acacia projects constitute a research framework

The Acacia telecentre projects will enable community level data to be collected on some 50-60 communities with telecentres (40 in South Africa, 14 in Senegal, 2 in Mozambique and 3 in Uganda) and approximately 50 communities (almost all in South Africa) without telecentres.

3. Research questions

The hypotheses that can be examined through the Acacia telecentre projects range from fundamental questions about the roles of information and communication technologies as catalysts for community development, to more specific questions about the ways in which community participation or different management models are success factors in operating the telecentres. The Acacia pilot projects offer a rare opportunity to test a large number of these hypotheses around a relatively uniform ICT package: the community telecentre.

In both South Africa and Senegal, the pilot telecentres in the Acacia projects are specifically being designed and located to evaluate the telecentre model in a range of community situations. Together, these variations in technology, applications, national context, community settings, and management

models form the main planks of the Acacia telecentre research framework.

The experimental approach will enable the Acacia initiative to evaluate the factors which make one community telecentre more successful than another, in at least three important areas: financial sustainability, service performance and community benefits.

4. CIET Sentinel Community Surveillance approach

The South African government telecentres will be studied by CIET which has recently established a regional office in South Africa (CIETafrica). It will be the largest longitudinal study of community telecentres within the Acacia program and probably within Africa. The strengths of the CIET approach include its sample survey approach which allow national statistical comparisons, its longitudinal data, and its "stakeholder learning system"of information feedback to the communities and to other stakeholders.

One of the terms of reference for this study was to review the CIET work in South Africa in some detail and to advise on whether CIETafrica should be invited to develop SCS telecentre impact projects in other Acacia pilot countries (Senegal, Mozambique and Uganda). For a number of reasons, including methodology and the strengths of other research teams in Senegal and Mozambique, such an approach is not recommended at this time.

The small numbers in the other countries suggest that a case study approach is more appropriate than a national survey approach. If the number of telecentres coming within the Acacia research frame increases significantly after this first pilot stage, it might be worth revisiting the question of a broader, multi-national survey using the CIET SCS approach.

5. Proposed research approaches

The research approach recommended is designed to create a core body of comparable data across all the Acacia projects while leaving sufficient scope for exploring issues of particular interest in different projects in more depth, and sufficient flexibility to the research teams to adapt the generic data collection to the needs of specific situations. There is already considerable common ground in the key research questions and methods being applied by each of the research teams, but there are also definite differences in approach and in underlying philosophy that warrant further discussion and sharing of ideas between the research teams.

6. Research methods

The main research approaches proposed to be applied in Acacia's telecentre research framework, although with different levels of intensity in each project, are:

1. Household survey
2. Telecentre operator monitoring
3. Telecentre user surveys
4. Key informant interviews
5. Focus groups
6. Institutional reviews
7. Ethnographic case studies
8. Participatory research
9. Electronic exchanges

7. Acacia start-up applications CD-ROM

There is a core set of development information among the expressed needs for applications. Many of these applications can be found in the types of research results produced by projects funded by IDRC and other donors over the past two decades. It is recommended that IDRC consider producing an "Acacia Community Development CD-ROM " which would include the basic information, designs of appropriate technology and "how to " practical guides responding to key topics identified in the telecentre communities. Such an initiative would also provide a new dissemination mechanism for IDRC to capitalise on its earlier investments in research projects.

8. Mechanisms for learning and stakeholder feedback

The Acacia initiative places priority on maximising learning and applying lessons learned as part of an ongoing research and implementation process To do this, it needs effective mechanisms for disseminating information, ensuring feedback to and from stakeholders, and linking research teams and key stakeholders to facilitate dialogue and mutual learning. For the telecentre projects, some of these mechanisms are already in place, or are being developed. Acacia has established national structures in its four pilot project countries for developing research capacities, sharing information, evaluating results and for translating results into policy and action. These structures are differently configured in the four countries, but in each, they serve as a framework for information exchange between the research projects and key national decision-makers for access to information, telecommunications and other important national policy areas.

Main Recommendations for action

9. Community Telecentre Research Network

The most immediate mechanism that needs to be put in place is a network of the research teams which will be studying the telecentre projects at the community level. These are not necessarily the same individuals or organisations which are responsible for implementing the telecentre projects, but those with research skills, especially social science, evaluation and community participatory research and action. The research network should focus on research collaboration in the design of research instruments and research methods, the identification of some common data collection and discussion of appropriate indicators for measuring community characteristics and community impacts and outcomes. If possible, the network should also involve IDRC program officers.

There is some urgency about launching the network as the key players should meet within the next six months in order to discuss details of baseline studies and overall research design before the telecentres are fully operational.

10. Telecentre operators network

The telecentre operators are identified as a key group for recording data on the performance of the telecentre, the demand for its services and the characteristics of the users. In South Africa, it is already planned to link the telecentre operators into a network which will communicate electronically to share experience and ideas on their roles and the challenges they encounter.

This recommendation would build on the South African telecentre operators' network in two ways: to link in the relatively small additional numbers of telecentre operators in the Acacia projects in Senegal, Mozambique and Uganda and make the network Acacia-wide, and to add a research or monitoring component to the discussions.

11. Acacia telecentre web pages

There is a strong sense of wanting to learn from other communities *in Africa* and a sense of identity with Acacia and other Acacia telecentre projects. It is recommended that Acacia should consider hosting Acacia telecentre home pages and help to generate that sense of community through its technical assistance and common image.

12. Acacia small grants network for community case studies

In Senegal and South Africa, discussions are underway to support university students to undertake community case studies in the pilot telecentre communities as part of their thesis studies. It is recommended that Acacia establish a network to link selected university departments in Senegal, South Africa, Mozambique and Uganda to support student research linked to the Acacia telecentre projects. The funding mechanism proposed is a small grants project funded by IDRC as part of Acacia.

The involvement of universities is necessary to ensure that adequate supervision is provided to the students and that the project meets university thesis and course requirements. There will also be greater interest and awareness generated among key university departments' staff and students about the need to study ICTs as a development issue and capacity building in field research in disadvantaged communities.

General conclusion

Through its Acacia program, IDRC has funded a number of innovative projects on pilot community telecentres, which each include a research component focussed on one or more of telecentre performance, community impact and financial viability. The next step is the more difficult but infinitely more exciting one which Acacia is now uniquely placed to undertake: to meld a strong international and comparative research program based on national telecentre projects which differ in their research designs, philosophies and the capacities and strengths of the research teams. The recommended approach is not to impose a common methodology but to encourage, through networks and capacity building, a core of comparative research results which will be useful to national policy, present stakeholders and potential new partners in bridging the information gap in Africa.

Today, the Acacia projects individually are at the forefront of research on community telecentres. If, tomorrow, they can also be brought within one research framework created and implemented through the Acacia research network, their collective research results can be expected to profoundly change the ways that ICTs are introduced to Africa and even our understanding of the role of information and communication in development. The Acacia telecentre projects taken as a group, are so exciting, it is hard to avoid hyperbole. Going the next step and establishing an Acacia research framework is an opportunity not to be missed.

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Annex 1. Site Visits to Telecentre Communities

1. Senegal

ENDA project
27 April 1998 — Le quartier, Dakar
Rufisque
Yeumbeul

Trade Point project
29 April 1998 — Thies

2. South Africa

USA-CIET project
5 May 1998 — Winterveldt
Gaunteng

3. Mozambique

CIUEM project
14 May 1998 — Manhica

4. Uganda

UNESCO-IDRC-ITU project
18 May 1998 — Nakaseke

UNCST project

19 May 1998	Buwama
19 May 1998	Nabweru

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